

CLAIMS:

1. A method of determining proximity of a target node to a source node, comprising:
  - communicating a query from the source node to the target node,
  - communicating a response from the target node to the source node,
  - the response from the target node including a measure of processing time required to generate the response based on the query,
  - receiving the response at the source node,
  - determining a measure of query-response time between communicating the query and receiving the response, and
  - determining the proximity of the target node based on a communication time that depends upon a difference between the measure of query-response time and the measure of processing time.
2. The method of claim 1, wherein
  - the query and response correspond to at least a portion of a cryptographic key-exchange protocol.
3. The method of claim 2, wherein
  - the key-exchange protocol corresponds to a Needham-Schroeder key-exchange protocol.
4. The method of claim 1, wherein
  - the query and response correspond to at least a portion of an OCPS protocol.
5. The method of claim 1, wherein
  - the measure of processing time at the target node is predefined.
6. The method of claim 1, wherein
  - determining the proximity includes comparing the communication time to a threshold value that distinguishes between local and remote nodes.

7. The method of claim 1, further including  
restricting communications with the target node based on the proximity.
8. The method of claim 1, wherein  
the response is cryptographically signed by the target node.
9. A node on a network including:  
a communication device that is configured to receive a query from a source node  
and to transmit a corresponding response to the source node,  
a processor that is configured to process the query and produce therefrom the  
response,  
wherein  
the response includes a measure of processing time required to process the query  
and produce the response.
10. The node of claim 9, wherein  
the processor is configured to process the query and produce the response as part of  
a cryptographic key-exchange protocol.
11. The node of claim 10, wherein  
the key-exchange protocol corresponds to a Needham-Schroeder key-exchange  
protocol.
12. The node of claim 9, wherein  
the query and response correspond to at least a portion of an OCPS protocol  
initiated by the source node.
13. The node of claim 9, wherein  
the measure of processing time is predefined.
14. The node of claim 9, wherein  
the processor is further configured to cryptographically sign the response.

15. A node on a network including:

a communication device that is configured to transmit a query to a target node and to receive a corresponding response from the target node,

the response from the target node including a measure of processing time required to generate the response at the target node, and

a processor that is configured to:

generate the query,

receive the response,

measure a query-response time between generating the query and receiving the response, and

determine a proximity of the target node relative to the node based on a communication time that is dependent upon a difference between the query-response time and the measure of processing time.

16. The node of claim 15, wherein

the processor is configured to generate the query and receive the response as part of a cryptographic key-exchange protocol.

17. The node of claim 16, wherein

the key-exchange protocol corresponds to a Needham-Schroeder key-exchange protocol.

18. The node of claim 15, wherein

the query and response correspond to at least a portion of an OCPS protocol initiated by the node.

19. The node of claim 15, wherein

the measure of processing time is predefined.

20. The node of claim 15, wherein

the processor is configured to determine the proximity based on a comparison of the communication time to a threshold value that distinguishes between local and remote nodes.

21. The node of claim 15, wherein

the processor is further configured to control subsequent communications with the target node based on the proximity.